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- (75) Inventors/Applicants (for US only): **POLIDORO, Roberto** [CH/IT]; Rue Frank Thomas 64, 1208 Genève (CH). **GERLIER, Andre** [FR/FR]; Hameau de Prailles, F-74140 Sciez (FR).
- (54) Title: **BANKNOTE CONVEYOR**
- (57) Abstract: A banknote conveyor which includes moveable means for transporting a banknote, the means engaging frictionally with the banknote at at least three points so that the force driving the banknote is dependent on the rigidity of the note. The banknote can further swivel about one of the points to align the note with a desired path. Also provided is a means for limiting the movement of the banknote if the force required to convey the banknote exceeds a predetermined limit and means for preventing the insertion of banknotes or other foreign objects into the conveyor when not in use.
- (74) Agents: **BURKE, Steven, D.** et al.; R.G.C. Jenkins & Co., 26 Caxton Street, London SW1H 0RJ (GB).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
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INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 03/14783

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 B65H29/70 B65H9/16

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 B65H

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 749 926 A (SHINKO SEISAKUSHO LTD ;ACE DENKEN KK (JP)) 27 December 1996 (1996-12-27) cited in the application the whole document	1-3,17
A	US 4 106 767 A (SCHIRMEISTER HARRY ET AL) 15 August 1978 (1978-08-15)	
A	EP 0 848 357 A (LAUREL BANK MACHINE CO) 17 June 1998 (1998-06-17) the whole document	
A	US 2001/045697 A1 (DAOUT JEROME ET AL) 29 November 2001 (2001-11-29) the whole document	

☐ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0749926	A	27-12-1996	AU 684618 B2	18-12-1997
			AU 1861295 A	18-09-1995
			EP 0749926 A1	27-12-1996
			US 5769412 A	23-06-1998
			CA 2184684 A1	08-09-1995
			CN 1142216 A	05-02-1997

US 4106767	A	15-08-1978	AT 340826 B	10-01-1978
			AT 943675 A	15-04-1977
			CH 605363 A5	29-09-1978
			DE 2655580 A1	16-06-1977
			FR 2334596 A1	08-07-1977
			GB 1562249 A	05-03-1980
			JP 52073469 A	20-06-1977
			SE 7613444 A	13-06-1977

EP 0848357	A	17-06-1998	JP 3361979 B2	07-01-2003
			JP 10226442 A	25-08-1998
			CN 1184982 A	17-06-1998
			DE 69720928 D1	22-05-2003
			DE 69720928 T2	05-02-2004
			EP 0848357 A1	17-06-1998
			KR 275800 B1	15-12-2000
			US 6042110 A	28-03-2000

US 2001045697	A1	29-11-2001	AU 3475201 A	20-08-2001
			CA 2402783 A1	16-08-2001
			CN 1406195 T	26-03-2003
			EP 1257489 A1	20-11-2002
			JP 2003522698 T	29-07-2003
			WO 0158790 A1	16-08-2001
			ZA 200205793 A	21-07-2003
